

	BOD5 Allocation		Allocation Method							
			Actual Treatment ¹		Equal Treatment ²		Equal % Reductions ³		Equal Impact ⁴	
	Licensed Flow MGD	Actual Flow MGD	Monthly Average	Weekly Average	Monthly Average	Weekly Average	Monthly Average	Weekly Average	Monthly Average	Weekly Average
Paper Mills			98-00 DMR's		19.6	26.7	46%	40%	10187	13601
Nexfor Fraser	33	28	10200	16000	4572	6228	7236	10752	11790	16426
Mead-Westvaco	34	31	6300	9450	5062	6896	6480	10200	6151	8396
Int Paper	51	46	4300	5250	7511	10233	5886	6600	4218	5715
Municipals - use BPT at licensed flow										
Berlin, NH	2.64	1.58			661	991				
Gorham NH	0.75	0.45			188	281				
Bethel, ME	0.3	0.15			75	113				
Rumford Point, ME	0.019	0.002			5	7				
Rumford-Mexico, ME	2.65	1.29			663	995				
North Jay	0.06	0.03			15	23				
Livermore Falls	2	0.66			500	751				
Municipal Total	8.419	4.162			2106	3160				
Total Mill + Municipal	126.4	109.2	22906	33860	19251	26517	21708	30712	24266	33696

	TSS Allocation		Allocation Method							
			Actual Treatment ¹		Equal Treatment ²		Equal % Reductions ³		Equal Impact ⁴	
	Licensed Flow MGD	Actual Flow MGD	Monthly Average	Monthly Average	Monthly Average	Monthly Average	Monthly Average	Monthly Average	Monthly Average	Monthly Average
Paper Mills			98-00 DMR's		41.1		64%		10123	
Nexfor Fraser	33	28	11000		9603		10152		14257	
Mead-Westvaco	34	31	10100		10631		11844		11909	
Int Paper	51	46	15200		15776		13806		11003	
Municipals - use BPT at licensed flow										
Berlin, NH	2.64	1.58			661	991				
Gorham NH	0.75	0.45			188	281				
Bethel, ME	0.3	0.15			75	113				
Rumford Point, ME	0.019	0.002			5	7				
Rumford-Mexico, ME	2.65	1.29			663	995				
North Jay	0.06	0.03			15	23				
Livermore Falls	2	0.66			500	751				
Municipal Total	8.419	4.162			2106	3160				
Total Mill + Municipal	126.4	109.2	38406		38116		37908		39276	

Notes

1. Allocations by actual treatment use 95% CI of log normal distribution of 1998-2000 treatment facility Discharge Monitoring Reports
2. Allocation by equal treatment assumes that each treatment facility will treat to an equal effluent concentration (in 1st row of table). Loads are determined by actual flows.
3. Allocation by equal % reductions reduces current license loads by an equal amount (% reductions are in 1st row of table)
4. Allocation by equal impact assumes an equal load for each discharger at the entrance to Gulf Island Pond. Equivalent UBOD/TSS Loads in 1st row of table.

TP Allocation		Allocation Method			
		Actual Treatment ¹	Equal Treatment ²	Equal % Reductions ³	Equal Impact ⁴
Licensed Flow MGD	Actual Flow MGD	Monthly Average	Monthly Average	Monthly Average	Monthly Average
Paper Mills					
Nexfor Fraser	33	28	147	58	49
Mead-Westvaco	34	31	220	65	73
Int Paper	51	46	269	96	89
Municipals			1		
Berlin, NH	2.64	1.58	56.7	13.2	19
Gorham NH	0.75	0.45	16.1	16.1	16.1
Bethel, ME	0.3	0.15	5.4	5.4	5.4
Rumford Point, ME	0.019	0.002	0.1	0.10	0.10
Rumford-Mexico, ME	2.65	1.29	46.3	10.8	15
North Jay	0.06	0.03	1.1	1.1	1.1
Livermore Falls	2	0.66	23.7	5.5	8
Municipal Total	8.419	4.162	149	52	64
Total Mill + Municipal	126.4	109.2	785	271	274
					276

Notes

1. Allocation of Phosphorus by actual treatment is not sufficient to meet class C water quality standards
2. Allocation by equal treatment assumes that paper mills treat to 0.25 ppm TP and larger municipals to 1 ppm TP. Loads are determined by actual flows.
3. Allocation by equal % reductions reduces current license loads by an equal amount (67%)

the following effluent TP concentrations (ppm) at actual facility flow: Fra

5. In all Phosphorus allocations, very small municipal discharges (Gorham, Bethel, Rumford Point, North Jay) are allocated at current actual levels.

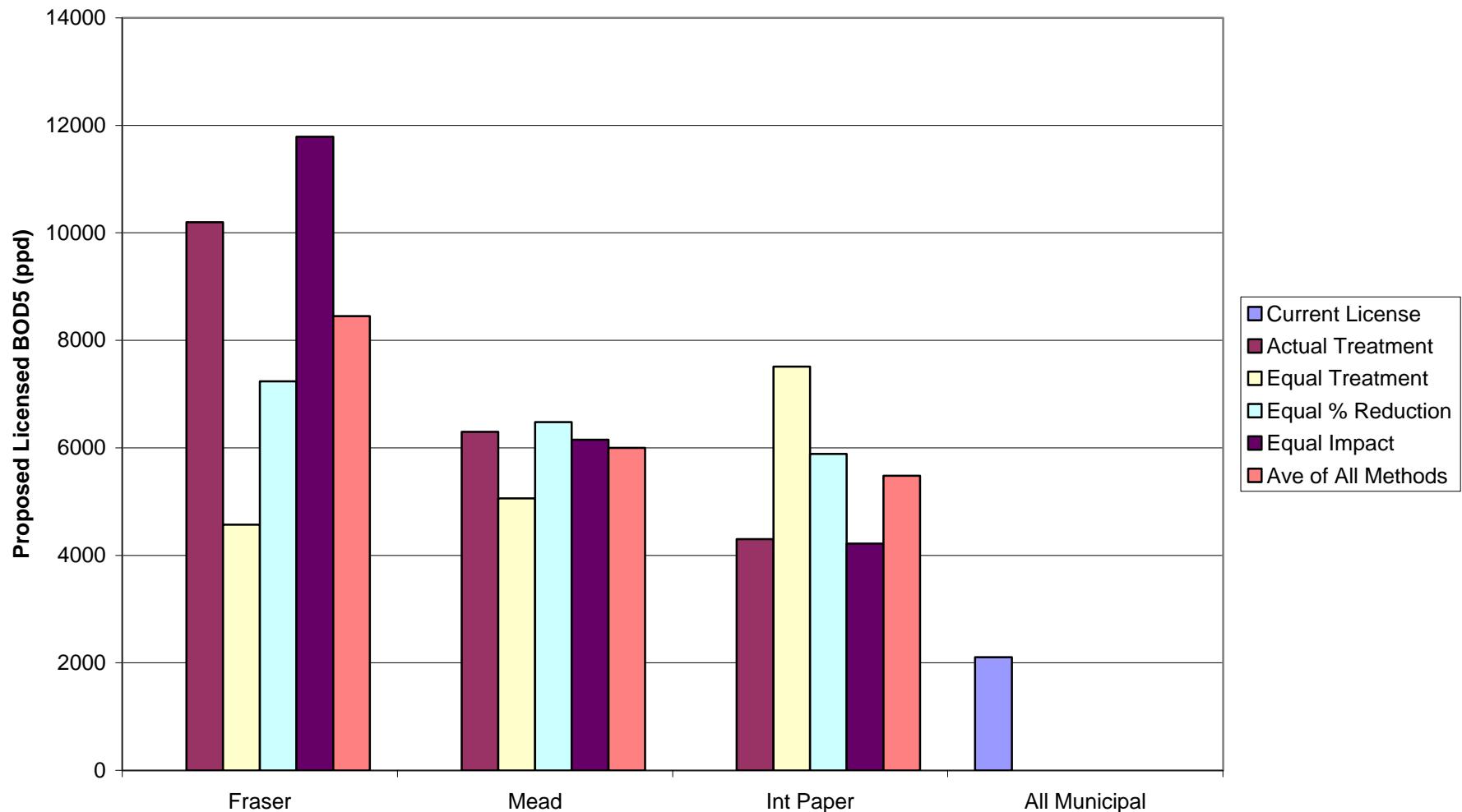
Allocation Calculations

BOD5	Summer Discharge Conditions				Conditions at the entrance to Gulf Island Pond							
	Licensed Discharge Loads (ppd) 2002		Actual Discharge Loads (ppd)		Travel Time (days) from outfall		% BOD remaining $K_d = .24$ @ 24°C		Point Source BODu ppd		Point Source BOD5 ppd	
	Weekly Ave	Monthly Ave	Weekly Ave	Monthly Ave	TOT 7Q10	TOT 30Q10	7Q10	30Q10	Weekly Ave	Monthly Ave	Weekly Ave	Monthly Ave
Fraser	13400	17920	16000	11000	6.19	5.98	23%	24%	13037	9431	3621	2620
Mead	12000	17000	9450	6300	3.32	3.21	45%	46%	15330	10501	4258	2917
IP	10900	11000	5250	4300	1.63	1.57	68%	69%	12436	10627	3454	2952
Totals									40803	30560	11334	8489

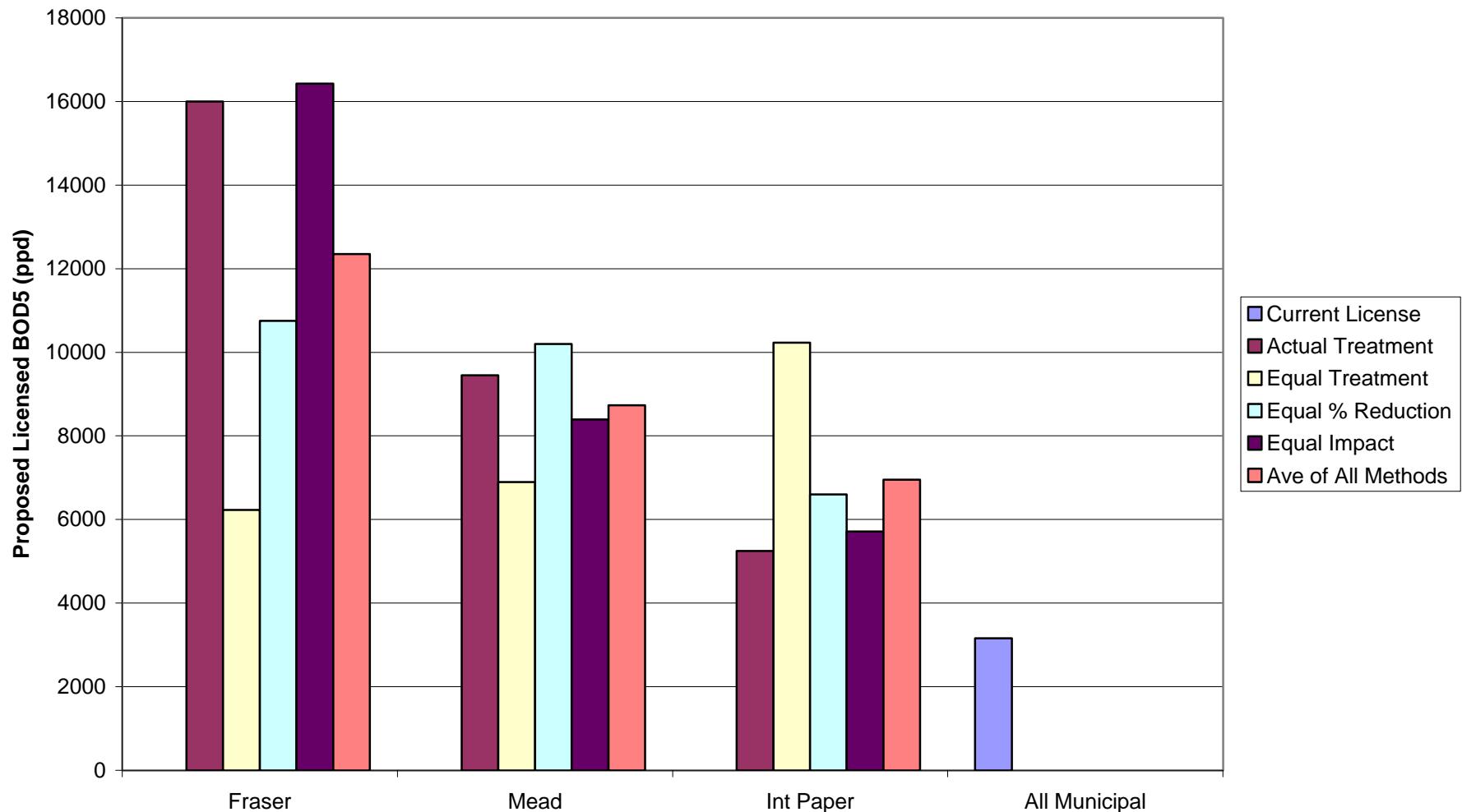
TSS	Annual Discharge Conditions			Conditions at the entrance to Gulf Island Pond		
	Licensed 2002		Actual 1998 - 2000	Travel Time (days) from outfall	% TSS remaining $K_r = .08$ @ 10°C	Point Source TSS
	Monthly Ave	Monthly Ave	Flow = 2200 cfs*	Flow = 2200 cfs*	Monthly Ave	Monthly Ave
Fraser	28200	11000	4.3	0.71	7798	
Mead	32900	10100	2.1	0.85	8538	
IP	38350	15200	1	0.92	14031	
Totals					30368	

*Ave Annual flow excluding April and May. Modeling report presumed minimal settling occurs during these two high flow months

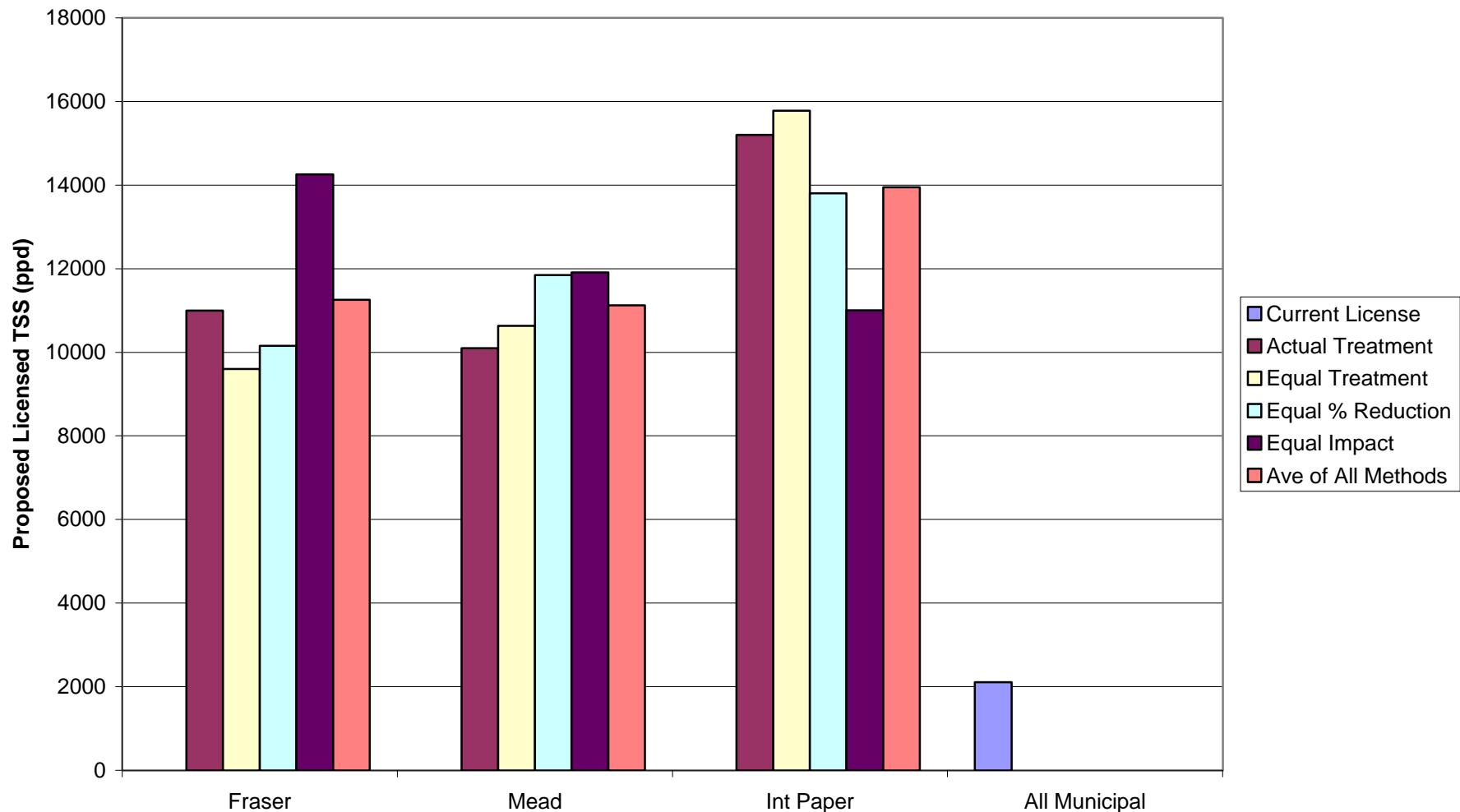
Gulf Island Pond TMDL
Summary of Allocation Methods
Monthly Average BOD5 Loads



Gulf Island Pond TMDL
Summary of Allocation Methods
Weekly Average BOD5 Loads



Gulf Island Pond TMDL
Summary of Allocation Methods
Monthly Average TSS Loads



Gulf Island Pond TMDL
Summary of Allocation Methods
Monthly Average Total Phosphorus Loads

